REMARKS

Claims 1-10, 12-13 and 15-27 are present in the application.

Claims 20-25 are withdrawn as the result of an election with traverse of Groups I and II, the election of which with traverse is hereby confirmed.

New dependent Claim 26 includes the limitations (A) and (C) of Claim 20, but is dependent upon Claim 1. New dependent Claim 27 includes the limitation (A) of Claim 1 and the limitation (D) of Claim 21, but is dependent upon Claim 1. Thus, Claims 26 and 27 are part of the elected Groups I and II (Claims 1-19) and must be searched for in connection with the elected claims. Accordingly, Applicant respectfully submits that no additional burden is placed upon the Examiner by inclusion of unelected Groups III and IV with elected Groups I and II. Indeed, new dependent Claim 26 is quite similar (although somewhat broader) than Claims 7 and 9 of elected Group I and Claims 17 and 18 of elected Group II. In particular, Applicant respectfully submits that Claim 7 represents merely a special case of Claim 20 of Group III and that Claim 8 represents merely a special case of Claim 21 of Group IV. Accordingly, Applicant respectfully traverses as unproductive the requirement for restriction between Groups I and II, on the one hand, and Groups III and IV, on the other hand.

Claims 10-11 and 13 are rejected under Section 112 as indefinite. Applicant respectfully submits that Claim 1 deals with "uniform patterns of bond density" in the first direction relative to the second direction, while Claim 13 deals with "bonded portion/unbonded portion ratios" in the first direction relative to the second direction.

The two criteria are similar, but not necessarily identical, and Applicant is in any case entitled to define his invention in a reasonable number of different ways.

Claim 11-13 have been cancelled.

Claim 14 is not inconsistent with Claim 1, as continuous fibers are formed by either meltblowing or spun-bonding. Both of these processes produce continuous fibers, as opposed to carding which produces staple or short fibers of limited length (usually measured in centimeters).

All claims are rejected as unpatentable over Langley, et al. U.S. 5,728,451, in view of Willey, et al. U.S. 5,494,736 and Marcus U.S. 6,053,999. Applicant respectfully notes that U.S. 6,537,644, which issued on March 25, 2003 on the parent application hereto, was granted over the citation of both the Willey, et al. and Marcus references.

Langley describes (at col. 5, lines 9-30) certain spun-bonded polyolefins available from Poly-Bond, Inc. and notes that the nonwoven webs may have a minimum break elongation and a minimum grab strength in one direction (MC), and a second minimum break elongation and a second grab strength in an orthogonal direction (CD). However, as Applicant understands the passage, Langley does not teach that any specific nonwoven web has different grab strengths in the two orthogonal directions or different break elongations in the two orthogonal directions. This is of little import, however, since Applicant acknowledges that nonwoven webs may be made with different grab strengths and different elongations in the two orthogonal directions. See, for example, commonly owned U.S. 6,331,268; U.S. 6,331,345; U.S. 6,319,455 and U.S. 6,436,512.

As taught by these patents, a differential in the parameter values along the two orthogonal directions may be made by methods having nothing to do with bonding points or bonding point densities. Applicant assumes this is why the Examiner acknowledges expressly "that Langley, et al. does not teach the bonding pattern recited in" Claim 1.

The Examiner notes that "Willey, et al. teaches the amount of pattern bond area is a key factor in 'providing the high machine cross direction elongation properties' of a non-woven web." Applicant will go one step further and acknowledge that "the amount pattern bond area is a key factor in providing the high machine direction elongation properties of a non-woven web." What Willey does not teach is what Applicant does teach - - namely, that the amount of pattern bond area in the MD should differ from the amount of pattern bond area in the CD. Willey teaches the problems that one may encounter if the amount of pattern bond area is too low or too high, but again this does not suggest that the amount of pattern bond area should differ for some reason between the MD and CD.

In any case, Willey represents non-analogous art to the present invention which is expressly limited to "a nonwoven defined by substantially randomly oriented, substantially continuous fibers." Not only in his title, but also in his specification (col. 1, lines 26-40; col. 1, line 61 - col. 2, line 4; col. 2, lines 21-25 and lines 64-67; col. 3, lines 1-44; Examples 1 and 2, etc.) and claims ("staple fibers"), Willey expressly and unambiguously indicates the scope of his invention to be limited to carded nonwovens - - that is, short or staple fibers, fibers which are typically highly oriented when produced by

traditional textile carding apparatus without scrambler rolls. Any comparison of tensile strength in orthogonal directions is attributed by Willey not to bonding patterns or bonding density, but rather to the orientation of the carded fibers (col. 3, lines 18-44, especially lines 40-44 ("thus a higher degree of the fibers [i.e., higher quantity of fibers] are oriented substantially in the cross machine direction than in typical carded nonwoven fabrics to provide increased elongation in the cross machine direction")). Also, Willey refers to the carded web as having a "high degree of elongation prior to [bond] processing" (col. 3, lines 49-51) - - i.e., 400-600% extensibilty. Thus, Willey teaches both a quantity and type of fiber which differs from that taught by the present invention. Willey's fibers themselves are extensible (not just the web formed therefrom) and more ("a high degree") are oriented in the CD.

Nowhere in the entire description of the bonding operations (col. 4, lines 1-64) does Willey refer to any orthogonally differential bonding as taught by the present application. Indeed, the Examiner does not even allege that Willey teaches orthogonal differential bonding according to the present invention.

Marcus is similar to Willey in that it too represents non-analogous art to the present invention. Marcus teaches "a method of point-bonding thermoplastic cut fibers in a stack of webs of carded fibers or continuous filaments in a tow, and then cutting and separating the resulting clusters" (Abstract). Marcus clearly distinguishes (col. 8, lines 65-67) between product prepared by carding staple fibers (see Examples 1-3) and product "produced from tows (of continuous filaments) instead of from cut fibers in a stack of webs" (see Examples 4-5). The Examiner relies on Marcus' teaching of a

particular bonding pattern used by "the bonding equipment for Examples 1 to 3" (col. 7, lines 25-30) as shown in Fig. 2. However, Examples 1 to 3 all involve carded staple fibers rather than continuous fibers (col. 8, lines 37-41) while Examples 4-5 relating to continuous fibers "produced from tow products using a different roll design" (col. 9, lines 9-11). There is no suggestion whatsoever that the pattern used in connection with the continuous filaments had the Examiner-noted distance differential in the bond pattern between "bond rows" and "bond columns." Accordingly, Marcus is pertinent only insofar as it teaches a particular bonding pattern which is itself taught as being used only in connection with carded staple fibers, and not the continuous fibers of the present invention.

A "tow" is a rope-like bunch of fibers, not a web. The only thing Marcus makes from continuous fibers are tows, and these tows are subsequently cut and separated to form fluffy clusters (col. 6, line 50-52) Any differential bonding which existed in the tows would be lost in the steps subsequent to tow formation - i.e., during cutting and cluster formation. (Cluster formation requires only a single bondng point per cluster, the single bonding point being sufficient to provide cluster cohesiveness.)

Interestingly, the Examiner concludes "it would have been obvious in the art to thermally pattern bond the web using a pattern collectively suggested by Willey and Marcus (i.e., pattern welding a web in the manner recited in Claim 1). There is none, but only the expected result of forming a pattern-welded web which has a greater elongation and lower grab strength along CD than along MD" (emphasis added). Thus, the Examiner is suggesting considering the same bonding pattern suggested by Willey

and Marcus (but only for use on carded staple fibers, as opposed to on randomly oriented continuous fibers), but then reversing the relative bonding density of that pattern in orthogonal directions using as a template or guideline "the manner recited in [Applicant's] Claim 1." Applicant respectfully submits, with all due deference, that one could hardly find a more egregious example of the prohibited use of an application under examination as a template or framework on which bits and pieces of the prior art are to be grafted.

Further, Applicant respectfully submits that the calculation of total bonding area along one direction relative to the total bonding area along an orthogonal direction is somewhat unclear in Marcus. The Examiner calculates the ratio as 30/21 or 1.43. "30" is clearly the distance "between the rows measured in machine direction (MD). However, "21" is not the distance between the rows measured in the CD. The rows do not extend exclusively in the MD, and thus a measurement perpendicular to the rows will not correspond to a measurement in the CD. Somehow the "42 degree angle between rows and MD" (col. 7, line 57) must be taken into consideration. Applicant suggests that in fact the separation between rows measured in the CD is at least 30.

Additionally, Applicant respectfully submits that the four step Marcus process (col. 4, lines 52-62) -- involving (i) providing a tow of filaments of crimped configuration, (ii) using a tow spreader to open the tow, (iii) cutting of the tow, and (iv) separating of the resulting cut tow into clusters -- bears only a slight and fugitive resemblance to Applicant's method which simply provides the nonwoven and applies a bonding pattern thereto.

In view of the above amendments and remarks, reconsideration of the rejection and allowance of all claims is respectfully requested.

If an extension of time is required to enable this document to be timely filed and there is no separate Request for Extension of Time, this document is to be construed as also constituting a Request for Extension of Time Under 37 C.F.R. § 1.136(a) for a period of time sufficient to enable this document to be timely filed. Any fee required for such a Request for Extension of Time and any other fee required by this document pursuant to 37 C.F.R. §§ 1.16 and 1.17 and not submitted herewith should be charged to the Deposit Account of the undersigned attorneys, Account No. 01-1785; any refund should be credited to the same account. One copy of this document is enclosed.

Respectfully submitted,

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